

TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference W0400T2	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2004/016991	International filing date (<i>day/month/year</i>) 16.11.2004	Priority date (<i>day/month/year</i>) 18.11.2003
International Patent Classification (IPC) or national classification and IPC F27D17/00, B01D51/00, C04B7/60		
Applicant TAIHEIYO CEMENT CORPORATION		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>2</u> sheets, as follows: <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-10 as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 2-8 as originally filed/furnished
- nos.* 1 as amended (together with any statement) under Article 19
- nos.* _____ received by this Authority on _____
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets fig. 1-4 as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1.	Statement		
	Novelty (N)	Claims <u>1-8</u>	YES
		Claims _____	NO
	Inventive step (IS)	Claims _____	YES
		Claims <u>1-8</u>	NO
	Industrial applicability (IA)	Claims <u>1-8</u>	YES
		Claims _____	NO
2.	Citations and explanations (Rule 70.7)		
	<p>Document 1: JP 09-301751 A (Ube Industries, Ltd.), 25 November 1997</p> <p>Document 2: JP 02-116649 A (Tosoh Corp.), 01 May 1990</p> <p>Claims 1 to 8</p> <p>Document 1 cited in the international search report discloses a bleeder pipe for extracting the exhaust gas from a cement kiln, wherein an outer pipe is provided around the outside of the bleeder pipe so that a cavity for holding a cooling medium is formed between the bleeder pipe and the outer pipe (refer to claim 1), the kiln tail-side of the bleeder pipe is porous (refer to claim 6), and a plurality of holes with small diameters are provided to the periphery of the end part on the kiln tail-side of the bleeder pipe (refer to claim 7). Therein, document 1 indicates that cooling air flutes are connected to the outer pipe so that within the cavity that is formed by the outer pipe the cooling air flows towards the inside of the kiln tail as opposed to the outside of the kiln tail wall (refer to fig. 1 and paragraph [0014]); presents an illustration depicting that the cooling air is blown out in the direction opposite the direction in which the extracted exhaust gas</p>		

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

is sucked from the end of the bleeder pipe (refer to fig. 1); illustrates a configuration wherein the entire surface of the kiln tail-side of the bleeder pipe is configured from a porous substance (refer to fig. 3); indicates that it is acceptable for said porous substance to be a metal material, a sintered metal material or a sintered ceramic particle material with a plurality of conventional holes formed therein (refer to paragraph [0016]); presents an illustration depicting that holes are arranged in a plurality of stages along the direction in which the extracted exhaust gas is sucked so that the cooling air is blown in from a direction that is perpendicular to the direction in which the extracted exhaust gas is sucked (refer to fig. 3); illustrates a configuration wherein a plurality of small holes for blowing in the cooling air are formed in the periphery of the end part on the kiln tail-side of the bleeder pipe (refer to fig. 4 and paragraph [0017]); and presents an illustration depicting that the cooling air is blown via the holes in the end of the bleeder pipe in a direction that is perpendicular to the direction in which the extracted exhaust gas is sucked (refer to fig. 4).

Document 2 cited in the international search report discloses a bypass pipe with an end that opens onto the interior of the duct so as to pass a portion of the kiln exhaust gas to the outside of the system, wherein said bypass pipe has a dual-pipe structure that comprises an inner pipe, which is connected to the gas bleeding/discharging system, and an outer pipe, which guides air to the vicinity of the end of the inner pipe that protrudes into the interior of the duct (refer to the claims).

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Document 1 discloses a feature wherein the cooling air is infused in a manner such that a spiralling current is generated, as is set forth in claim 5 of the present application (refer to paragraphs [0015] and [0018] and fig. 2, 6, 5 and 7 of document 1); however the generation of a spiralling current is not an essential feature of the invention, and thus the scope of the invention disclosed in document 1 includes embodiments that do not generate a spiralling current, as can be seen from fig. 3 or 4, in which case it is considered to be possible for the cooling air to reach the center part.